THIS IS A MANUSCRIPT, BUT NOT A PUBLICATION. IT IS NOT ISSUED FOR PERMANENT SCIENTIFIC RECORDS AND IS DISCLAIMED FOR THE PURPOSE OF ZOOLOGICAL NOMENCLATURE IN THE SENSE OF THE CODE OF ZOOLOGICAL NOMENCLATURE ARTICLE 8.2 (ICZN, 1999; RUSSIAN TRANSLATION, 2000).

1. Morphology and Taxonomy

Terminology for morphological details

I used the following terminology for *Chrysolina* morphological structures when appropriate: Maulik (1926), Brovdij (1977), Konstantinov, Vandenberg (1996), Bieńkowski (2004a, 2007a), Lopatin, Nesterova (2005), Yang, et al., (2015).

Special features used are commented below

Abdominal sternites (five in total) in terms of the present book are really ventrites (i.e. externally visible sternites).

Aedeagus in terms of the present book is really the median lobe of male genitalia.

Antennal insertion location – a ratio of the smallest distance between the inner edge of the eye and the outer edge of antennal insertion to the smallest distance between the inner edge of antennal insertion and the outer edge of the clypeus.

Anterior margin of pronotum ciliate, in other words, it bears a row of short setae in the most species. These setae are visible in upper and slightly posterior view, if head of beetle turned toward light source, at magnification of at least 56 X.

Anterior setiferous pore is situated at anterior angle of pronotum (Fig. 1: 14d).

Basal "heel" of the first tarsomere is a long, narrow, glabrous basal part of the tarsomere underside.

Elytral puncture rows are numbered 1–9 (Fig. 1: 13). Besides that, there are two unnumbered rows, namely scutellar puncture row and marginal stria (Fig. 1: 13a).

Elytral punctures always present (although they are sometimes poorly visible), with punctures being completely irregular, or arranged in some irregular rows at the borders of smooth stripes or calli, or having a tendency to form more or less regular longitudinal rows, or forming quite regular rows single or paired.

Flagellum is a sclerotized part of the internal sac of the median lobe of male genitalia.

Intervals between elytral puncture rows are numbered depending on puncture row outside the respective interval, therefore the interval between 9th row and marginal stria is 10th interval.

Orbital line – an impression or furrow that extends along posterior and inner margin of eye (Fig. 1: 14c).

Over-epipleural row of punctures on elytron is a row lying in a groove immediately adjacent to the upper edge of the epipleura = marginal stria.

Pronotal lateral callus. There are three main states of this feature: a) callus absent, i.e. pronotum laterally not swollen (Fig. 2: 1), b) callus convex, but not separated by lateral impression (or furrow) from the disc, i.e. pronotum swollen laterally, but lateral impression absent (Fig. 2: 2), c) callus convex (i.e. pronotum swollen laterally), callus is separated by impression (or furrow) from the disc (Fig. 2: 3).

Many authors (e.g. Bechyné, 1950a) understood under the "convex" callus such a form of the callus when it is separated from the pronotal disc by an impression (my state "c"). In the two other cases, when convex callus presents (pronotum swollen laterally), but not separated from the disc (my state "b"), or when convex callus really absents (my state "a"), they said that "callus absents" (my state "b"). In the present work, I accept, that the callus really absents only when the lateral side of pronotum is not convex (swollen) at all.

Prosternum consists of transverse anterolateral portions before the coxae (Fig. 1: 15a) and longitudinal intercoxal process between the coxae (Fig. 1: 15c).

Prothoracic hypomeron (Fig. 1: 15b) is more or less convex, with (or without) impression and wrinkles laterally and short basal fold basally (Fig. 1: 15d).

Sutural stria is a deepened posterior part of the first elytral puncture row at apical slope of elytron (Fig. 1: 13b).

Morphological features for Chrysolina *species descriptions*

There are a number of features, the use of which in descriptions is necessary, in my opinion, for the correct attribution of the species to any subgenus.

1. Coloration and microreticulation of body, antennae and legs.
2. Shape of last maxillary palpomere in male and female.
3. Position of the base of the antenna between clypeus and eye.
4. Pronotum: general shape, shape of lateral calli and impressions, puncturation.
5. Presence of anterior edging of pronotum.
6. Setation of anterior margin of pronotum.
7. Presence of anterior setiferous pore of pronotum.
8. Shape of prothoracic hypomeron.
9. Presence and shape of basal fold of prothoracic hypomeron.
10. Presence of anterior edging of metasternum.
11. Shape of elytron, including humeral callus.

12. Elytral puncturation and relief, including presence of sutural stria.
13. Inclination of elytral epipleuron.
14. Setation of elytral epipleuron.
15. Degree of development of hind wings.
16. Shape of tarsomeres 1–3 in male and female.
17. Setation of underside of tarsomeres 1–3 in male and female.
18. Presence of denticles on claw tarsomere.
19. Longitudinal impression of pygidium.
20. Shape of last abdominal sternite in male and female.
21. General shape of aedeagus and flagellum (if the latter is present).

Holotype or syntypes of "old" taxa in the species group?

In a number of old original descriptions, the **number of specimens** included **in the type series is not indicated** exactly. In such cases, I strictly follow ICZN (1999): 73.1.3: "The holotype of a new nominal species-group taxon can only be fixed in the original publication and by the original author" and therefore consider all type specimens as **syntypes**.

Some authors, in such cases, having found the specimen labeled as "holotype", consider the respective specimen as a holotype. They refer to ICZN (1999): 72.4.1.1: "For a nominal species or subspecies established before 2000, any evidence, published or unpublished, may be taken into account to determine what specimens constitute the type series". In fact, the article 72.4.1.1 indicates which specimens may be considered as belonging to the type series, and which ones may not. But this article does not indicate the status of the specimens in the type series (holotype, syntype?). In addition, these authors contradict ICZN (1999): Recommendation 73F: "Avoidance of assumption of holotype. Where no holotype or syntype was fixed for a nominal species-group taxon established before 2000, and when it is possible that the nominal species-group taxon was based on more than one specimen, an author should proceed as though syntypes may exist and, where appropriate, should designate a lectotype rather than assume a holotype".

The precedence of **Chrysolina** *as a generic name*

Five names take precedence over *Chrysolina* Motschulsky, 1860a. They are *Atechna* Chevrolat, 1833, *Polysticta* Hope, 1840, *Eleia* Gistel, 1848, *Rhyssoloma* Wollaston, 1854, and *Chloemela* Gistel, 1856.

Motschulsky (1860a) proposed simultaneously with the name *Chrysolina* a number of generic names, such as *Anopachys, Bittotaenia, Centoptera, Chalcoidea, Chrysomorpha, Colaphodes, Colaphoptera, Colaphosoma, Craspeda, Heliostola, Hoplosoma, Lithoptera, Ovomorpha, Ovosoma, Pleurosticha, Stichoptera, Taeniosticha, Threnosoma, Timarchoptera, Zeugotaenia*, and Motschulsky (1860b) proposed a generic name *Apterosoma*. Most of them (except *Apterosoma*) have been considered by Bechyné (1950a) within the genus *Chrysolina* as valid subgenera, *Hoplosoma, Lithoptera, Ovomorpha, Zeugotaenia* as synonyms, and *Bittotaenia* as a subgenus of the

genus *Crosita*. This was repeated by Seeno, Wilcox (1982) (*Apterosoma* – as a synonym of *Chrysolina*). Bieńkowski (2001) transferred a subgenus *Bittotaenia* to the genus *Chrysolina*. Publications by Bechyné (1950a), Seeno, Wilcox (1982), and Bieńkowski (2001) constitute the principle of the first reviser (ICZN, 1999, 24.2) in the relation to the above mentioned names proposed by Motschulsky (1860a, b).

Chrysolina is a *nomen protectum* (ICZN, 1999, 23.9.1.2), it is widely used, e.g. by: Bieńkowski (2001, 2004a, 2007a), Bourdonné, Doguet (1991), Brovdij (1977), Burakowski, et al. (1990), Daccordi (1980a, 1980b, 1994), Jolivet (1992), Kimoto (1984), Kimoto, Gressitt (1981), Kippenberg (2010), Kippenberg, Döberl (1994), Lopatin (1977, 1986, 2010), Lopatin, Kulenova (1986), Lopatin, Nesterova (2005), Medvedev (1982, 1992a), Medvedev, Sprecher-Uebersax (1999a), Riley, et al. (2003), Seeno, Wilcox (1982), Silfverberg (1980), Warchałowski (1993, 2003, 2010), Yang (2014), Yang, et al. (2015).

ICZN (1984) ruled that *Chrysolina* takes precedence over *Atechna*.

Polysticta Hope, 1840 is a junior homonym of *Polysticta* Eyton, 1836 (Aves), and, therefore, invalid.

Eleia and *Chloemela* were not used as a valid names after 1899, they absent in catalogues by Weise (1916), Seeno, Wilcox (1982), and Kippenberg (2010). Therefore, *Eleia* and *Chloemela* are *nomina oblita* (ICZN, 1999, 23.9.1.1). Bezděk (2020) provided evidence of compliance with ICZN (1999, 23.9.1.1 and 23.9.1.2) in relation to *Chloemela* and designated it as *nomen oblitum*.

Rhyssoloma was originally offered for the subgenus: *Chrysomela* (*Rhyssoloma*). It was not used as a generic name after 1899 and absents in catalogue by Weise (1916). Later, it was used for the subgenus within the genus *Chrysolina* by Bechyné (1950a), Bieńkowski (2001), Bourdonné, Doguet (1991), Daccordi (1994), Kippenberg (2010), Seeno, Wilcox (1982). It is need to ask the International Commission on Zoological Nomenclature to use its plenary power for keeping the prevailing usage of the both names, *Chrysolina* for the genus, and *Chrysolina* (*Rhyssoloma*) for the subgenus (ICZN, 1999, 23.9.3).

2. Subtribe Chrysolinina. Diagnosis of subtribe and key to genera.

Chrysomelina Reitter, 1912: 107, partim.
Chrysomelini Weise, 1916: 10, partim.
Chrysolinina Chen, 1936a: 64; Seeno, Wilcox, 1982: 80, partim; Daccordi, 1994: 78, partim; Kippenberg, 2010: 398.
Chrysolinini Bechyné, 1952: 353; Lopatin, 1977: 137.

Diagnosis

Anterior coxal cavities open behind. Intercoxal prosternal process narrow to broad, but never extremely narrow and vertical. Elytral epipleura with surface glabrous, with setae present only at its interior border at least near apex; setae not run back up along elytral suture; setae dense to sparse, very rarely entirely absent. Elytral epipleura mostly oblique, visible along entire length in lateral view, or horizontal in posterior ½, if they turned inside, invisible in lateral view, then maxillary palpi with last (4th) palpomere as broad as 3rd, not strongly expanded from narrow base to broad truncate apex. Claws simple, not fused together at base, neither appendiculate, nor bifid.

Remarks

I generally accept the system of the Chrysomelinae by Daccordi (1994) with some alterations. After Daccordi (1994), the subtribe Chrysolinina Chen, 1936 includes 12 genera from Old World, namely *Chrysolina* Motschulsky, 1860, *Crosita* Motschulsky, 1860, *Ambrostoma* Motschulsky, 1860, *Cecchiniola* Jacobson, 1908, *Cyrtonus* Latreille, 1829, *Sphaerolina* Baly, 1871, *Humba* Chen, 1934, *Agrosteomela* Gistel, 1857, *Sphaeratrix* Gistel, 1848, *Chersomela* Weise, 1914, *Liomela* Weise, 1912, and *Omolina* Weise, 1909, and 21 more genera from New World.

Wang, Chen (1981) elevated subgenus *Ambrostoma* (*Parambrostoma* Chen, 1936) to generic rank. Medvedev (1987) described the genus *Agrosteella*, to separate the species *fallaciosa* Stål, 1862 from the genus *Agrosteomela*.

I follow Seeno, Wilcox (1982) to consider the New World genera as the members a separate subtribe Doryphorina Yuasa, 1936. This point of view is supported by Kippenberg (2010) (in relation to taxa inhabiting the Palaearctic).

I agree with Daccordi (1994) when he included *Gnathomela* Jacobson, 1895, *Timarchida* Ganglbauer, 1897, and *Semenowia* Weise, 1889 in the genus *Chrysolina* as the subgenera. I included *Bittotaenia* Motschulsky, 1860 and *Cecchiniola* in the genus *Chrysolina*, both at the subgeneric level (Bieńkowski, 2001). Presently I consider *Chersomela* Weise, 1914, *Liomela* Weise, 1912, and *Omolina* Weise, 1909 in the genus *Chrysolina* at the subgeneric level.

Subtribe Chrysolinina

Although Daccordi (1994) considered all subgenera of *Oreina* as separate subgenera within the genus *Chrysolina*, I share the point of view of the majority of modern authors (e.g., Warchałowski, 1993, 2003; Kippenberg, Döberl, 1994; Hsiao, Pasteels, 1999; Petitpierre, 1999; Lompe, 2002; Borowiec, 2007–2018; Zaitsev, Medvedev, 2009; Kippenberg, 2010; Lopatin, 2010) on the integrity of *Oreina* as a separate genus.

I considered *Timarchomima* Bechyné, 1950a to be a separate genus within the subtribe Chrysolinina (Bieńkowski, 2001, 2007a).

Key to genera of the subtribe Chrysolinina

1(28) Elytral epipleura ciliate at least in apical part, setae sometimes few, very short.
2(21) Anterior intercoxal process of metasternum immarginate between mid-coxae (Fig.1: 4, 5).
3(20) Elytral epipleura visible in lateral view, at least in basal ½
4(9) Antennomeres 7–11 broadened (Fig.1: 10). Last maxillary palpomere slightly narrower than penultimate. Pronotum without longitudinal lateral impressions; cordiform, broadest before mid-length, emarginated laterally before base. Elytral epipleura ciliate along entire length (sometimes, they densely ciliate posteriorly and sparsely ciliate anteriorly).
5(6) Prothoracic hypomeron without longitudinal lateral furrow, and without deep cavity anteriorly (Fig. 1: 8). Elytra very convex, body hemispherical in lateral view (Fig. 1: 1).
Sphaerolina Baly, 1871 Three species in India and Sri Lanka.
6(5) Prothoracic hypomeron with longitudinal lateral furrow (Fig. 1: 9).
7(8) Elytra very convex, body hemispherical in lateral view. Prothoracic hypomeron without deep cavity anteriorly. Elytra reddish-brown or black, with metallic reflection, with yellow pattern.
Camerounia Jolivet, 1949. One species in Africa (Guinea, Cameroon).
8(7) Elytra convex, but body not hemispherical in lateral view (Fig. 1: 2). Prothoracic hypomeron with deep cavity anteriorly (Fig. 1: 9). Elytra unspotted, rufous or brown.
Humba Chen, 1934 (*Eumela* Baly, 1875). Three species in S Asia.
9(4) Antenna filiform (Fig. 1: 12). Last maxillary palpomere as wide as penultimate or wider than latter.
10(11) Species from E and S Africa. Elytral epipleura ciliate apically. *Chrysolina* (*Taeniochrysea*) *superba* (Thunberg, 1787) and *Chrysolina* (*Paramenthastriella*) *beatricis* Daccordi, 1980. See Key to subgenera and Reviews of the respective subgenera.
11(10) Species from Asia.
12(17) Elytra rufous or brown, with or without metallic reflection.
13(16) Body moderately convex in lateral view. Elytra with 10 regular puncture rows closely paired, with intervals between these pairs smooth, impunctate. Hind wings developed. Elytral epipleura ciliate along entire length.
14(15) Anterior projection of metasternum convex and longer than in the next genus (Fig. 1: 5).
Agrosteomela Gistl, 1857 (*Paralina* Baly, 1859). 5 species in S Asia.
15(14) Anterior projection of metasternum blunt and shorter than in the previous genus.
Agrosteella L.Medvedev, 1987. 8 species in N India, Nepal, China, Vietnam.

16(13) Body very convex, hemispherical in lateral view; elytra evenly irregularly punctate, without humeral calli. Hind wings absent. Elytral epipleura ciliate in apical ½.

Timarchomima Bechyné, 1950. Three species in India.

17(12) Dorsum entirely metallic.

18(19) Elytral epipleura ciliate along entire length. Pronotum immarginate anteriorly and posteriorly.

Ambrostoma Motschulsky, 1860a. 8 species in E Asia.

19(18) Elytral epipleura ciliate apically. Pronotum marginated anteriorly and posteriorly.

Parambrostoma Chen, 1936c. 6 species in N India and Nepal.

20(3) Elytral epipleura turned inside, invisible in lateral view, ciliate along entire length.

Sphaeratrix Gistel, 1848 (*Monardita* Bechyné, 1948) (Figs. 3, 5). Three species in E Africa.

21(2) Anterior intercoxal process of metasternum entirely marginated (Fig. 1: 6). (*Agrosteella medvedevi* Daccordi, 2001 belongs here based on the original description, because of the shape of metasternum).

22(23) Pronotal base deeply emarginated and bearing 2–3 large obtuse denticles at sides (Fig. 1: 11).

Cyrtonus Latreille, 1829. 35 species in W Mediterranean Region.

23(22) Pronotal base devoid of denticles at sides.

24(25) Hind tarsomere 3 deeply emarginated apically (Fig. 1: 7). All species wingless.

Crosita Motschulsky, 1860. 12 species in S-E European Russia, Siberia, Kazakhstan, Central Asia, Mongolia, and China.

25(24) Hind tarsomere 3 shallowly emarginated apically; species winged or wingless.

26(27) Humeral calli convex to obsolete. Hind wings developed to reduced, or absent. Body mostly oval or obovate. Elytral punctures confuse or arranged in more or less regular rows. Elytral epipleura horizontal, invisible in lateral view in posterior ½, or oblique, visible along entire length; ciliate apically in the most of species (species of subgenus *Atechna* Chevrolat, 1833 have epipleura densely ciliate along the entire length; *Ch.* (*Pezocrosita*) *juldusana* (Lopatin, 1962) has epipleura ciliate from the apex to the level of mid-coxae, and *Ch.* (*P.*) *ketmenica* (Lopatin, 1970) – to the level of ½ length of the 1st abdominal sternite, members of the subgenus *Polystictella* have elytral epipleura densely ciliate in apical 1/3 and sparsely ciliate in basal 2/3) . Relief of pygidium various, with longitudinal impression or without of it. Ventral pubescence of some of tarsomeres 1–3 reduced in various degree in many species, especially in hind-tarsi of females.

Chrysolina Motschulsky,1860. 488 species in Europe, Asia, Africa, and N America, some species introduced in Australia, New Zealand, and S America (*Timarchomima clavareaui* from S India is also keyed here. This species occupies intermediate position between *Chrysolina* and *Timarchomima* and is characterized by the following features: body very convex, hemispherical; elytral epipleura oblique, visible along entire length in lateral view, ciliate apically; claw tarsomere with 2 denticles beneath apically; elytral punctures moderately large, as large as those at pronotal disc, irregular, dense, with intervals covered by sparse, very fine punctures; dorsum shining, head and pronotum bronze, elytra brown with bronze reflection).

27(26) Humeral calli convex. Hind wings developed. Body elongated, with lateral sides parallel near mid-length. Elytra entirely confusedly punctate. Elytral epipleura horizontal, invisible in lateral view in posterior 1/3; ciliate apically. Pygidium microscopically reticulated, impunctate, with weak longitudinal impression basally, and smooth, punctate, without any impression apically. Tarsomeres 1–3 entirely pubescent beneath.

Oreina Chevrolat, 1837. 20 species in Europe (mostly in mountains), two species in Siberia.

28(1) Elytral epipleura entirely glabrous.

Chrysolina eurina (Frivaldszky, 1883) and *Ch. deubeli* (Ganglbauer, 1897) from Europe, *Ch. nagaja* (Daccordi, 1982a) and *Ch. daccordii* (L.Medvedev et Sprecher-Uebersax, 1999b) from Nepal and Pakistan,

some members of *Ch.* (*zhongdiana*) species group from China (Sichuan, Yunnan).

Remarks

Monrós, Bechyné (1956) treated all *Chrysolina* subgenera as the single subgenus of the genus *Oreina*. Bechyné (1958) placed the subgenera of both, *Oreina* and *Chrysolina* in the same genus and pointed out the priority of the name *Oreina* over *Chrysolina*. Bourdonné, Doguet (1991) and Daccordi (1994) integrated all subgenera of the genus *Oreina* into *Chrysolina*, keeping the subgeneric level of them. I presently consider *Oreina* to be united genus, but not a group of the subgenera within *Chrysolina*.

Difference of *Oreina* and *Chrysolina* by the relation between the length of metasternum and first abdominal sternite (metasternum as long as 1st abdominal sternite or shorter in *Oreina*, and metasternum longer than 1st abdominal sternite or as long as latter in *Chrysolina*) is generally accepted (for example, Weise, 1882, 1884a; Gressitt, Kimoto, 1963; Medvedev, Shapiro, 1965; Brovdij, 1977; Lopatin, 1977, 1986, 2010; Medvedev, Dubeshko, 1992; Warchałowski, 1993, 2003; Bieńkowski, 1999b, 2004a; Lompe, 2002).

I found that *Oreina* and *Chrysolina* do not differ from each other by this character because of the great variability. Metasternum is distinctly longer than 1st abdominal sternite in the most of the examined specimens of *O. coerulea* (Olivier, 1790) and *O. bidentata* Bontems, 1981 (in 18 from 20 specimens of each species) and in some specimens of other *Oreina* species including *O. elongata* (Suffrian, 1851), *O. fairmairiana* (Gozis, 1882), *O. genei* (Suffrian, 1851), *O. cacaliae* (Schrank, 1785), *O. basilea* (Gebler, 1823), *O. intricata* (Germar, 1823), *O. virgulata* (Germar, 1823), *O. alpestris* (Schummel, 1844), *O. plagiata* (Suffrian, 1861), *O. speciosa* (Linnaeus, 1767), and *O. speciosissima* (Scopoli, 1763).

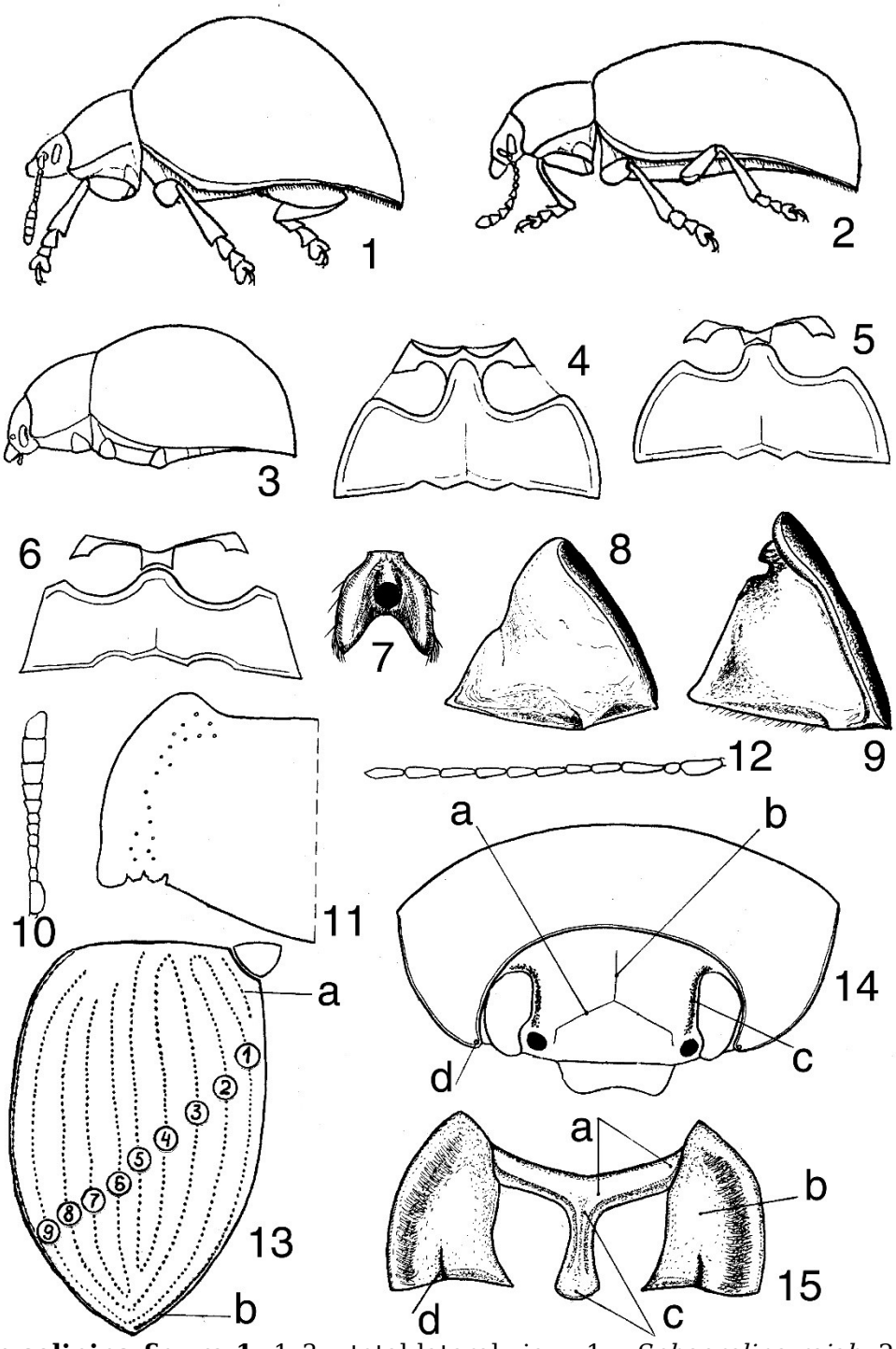
The combination of the characters mentioned above in couplets 26 and 27 represents a clear-cut distinction between *Oreina* and all Palaearctic subgenera of *Chrysolina* except *Synerga* Weise, 1900 and *Melasomoptera* Bechyné, 1950. However, the species of both, *Synerga* and *Melasomoptera* differ from *Oreina* in body oval and distinctly broader.

There is no point in including *Oreina* in the genus *Chrysolina* as a single subgenus because of great diversity in structure of maxillary palpi and aedeagus in *Oreina*, which goes far beyond the variability of species within each subgenus of *Chrysolina*. On the other hand, the subgenera of *Oreina*, namely *Allorina* Weise, 1902, *Chrysochloa* Hope, 1840, *Frigidorina* Kühnelt, 1984, *Intricatorina* Kühnelt, 1984, *Oreina* s.str. (= *Romalorina* Weise, 1906), *Protorina* Weise, 1894, and *Virgulatorina* Kühnelt, 1984 can not be ascertained as separate, independent groups within *Chrysolina* because of number of features (mentioned in the key above) which are common for all *Oreina* species. If it was necessary to consider *Oreina* within the genus *Chrysolina*, then one more level of taxonomic hierarchy between the genus

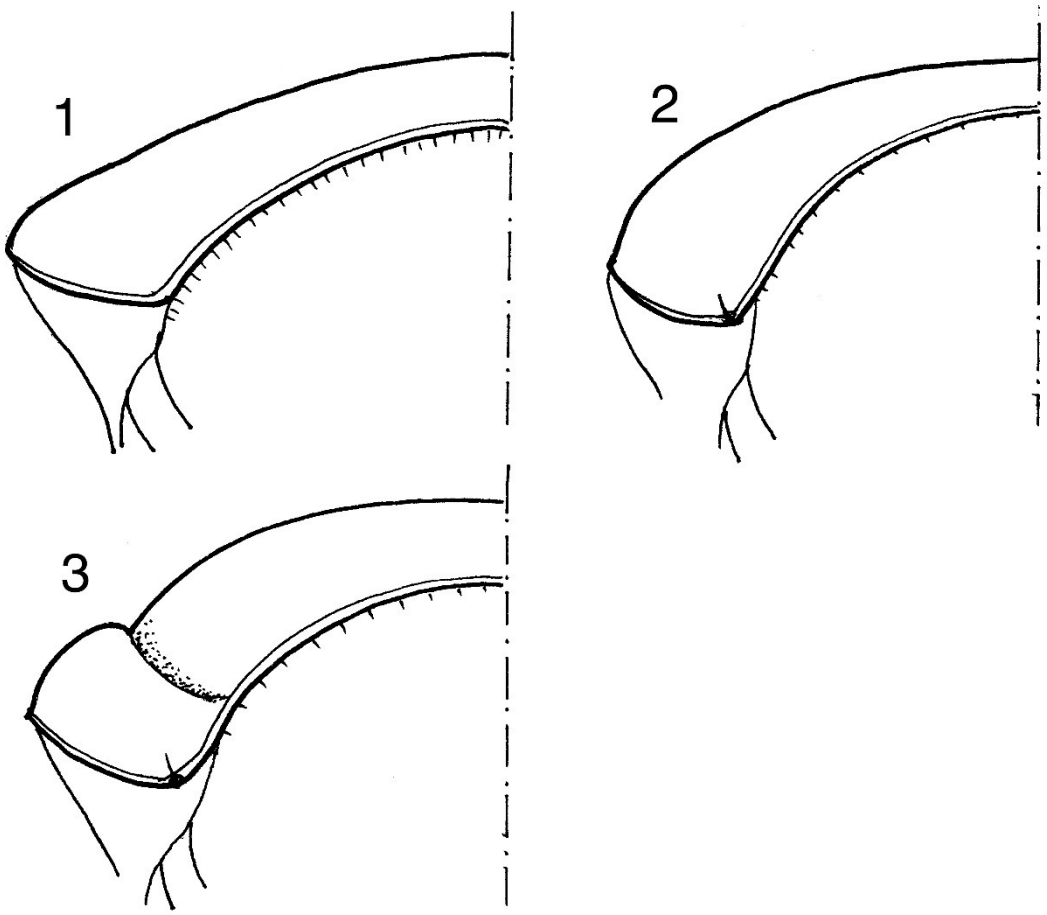
and subgenus would be required looks like that: *Chrysolina* s.l. (*Oreina* "super-subgenus" + *Chrysolina* "super-subgenus").

Hsiao, Pasteels (1999) in their phylogenetic study based on mitochondrial DNA analysis hold to the idea that *Oreina* is an inseparable natural taxon, and *Chrysolina* subgenera *Synerga* (= *Menthastriella*) and *Melasomoptera* are distant from *Oreina.* Two separate genera, *Oreina* and *Chrysolina*, are presented in the recent Catalogue of Palaearctic Coleoptera (Kippenberg, 2010). On the other hand, Jurado-Rivera, Petitpierre (2015) performed a phylogenetic analysis based on mitochondrial and nuclear DNA sequences. 52 *Chrysolina* species from 30 subgenera and five (from 22) *Oreina* species, belonging to two (from 7) subgenera (*Oreina* s.str. and *Chrysochloa*) have been analyzed. They supported the monophyly of studied *Chrysolina* (except *Ch. vigintimaculata*) and *Oreina* species. *Oreina* forms a compact clade within *Chrysolina* phylogenetic tree, and the closest to *Oreina* are *Chrysolina* (*Timarchoptera*) *haemochlora*, *Ch*. (*Fastuolina*) *fastuosa*, and *Ch*. (*Centoptera*) *bicolor*.

Species examined during the compilation of the key to genera (besides the *Chrysolina* members) are the following: *Agrosteella fallaciosa* (Stål), *A. indica* (Hope), *Ambrostoma fortunei* (Baly), *A. quadriimpressa* (Motschulsky), *Camerounia ornata* (Baly), *Crosita altaica* (Gebler), *C. borochorensis* L.Medvedev, *C. clementzae* Jacobson, *C. kaszabi* Lopatin, *C. kowalewskyi* (Gebler), *C. pigra* Weise, *C. rugulosa* (Gebler), *C. urumchiana* Chen, *Cyrtonus majoricensis* Breit, *C. montanus* Fairmaire, *C. pardoi* Cobos, *C. plumbeus* Fairmaire, *C. punctipennis* Fairmaire, *C. rotundatus* Herrich-Schaeffer, *C. ruficornis* Fairmaire, *C. versicolor* Marseul, *Humba cyanicollis* (Hope), *Oreina alpestris* (Schummel), *O. auricollis* (Stierlin), *O. basilea* (Gebler), *O. cacaliae* (Schrank), *O. canavesei* Bontems, *O. coerulea* (Olivier), *O. bidentata* Bontems, *O. elongata* (Suffrian), *O. fairmairiana* (Gozis), *O. frigida* (Weise), *O. ganglbaueri* (Jakob), *O. genei* (Suffrian), *O. gloriosa* (Fabricius), *O. intricata* (Germar), *O. liturata* (Scopoli), *O. ludovicae* (Mulsant), *O. marsicana* (Luigioni), *O. melancholica* (Heer), *O. peirolerii* (Bassi), *O. plagiata* (Suffrian), *O. redikorzevi* (Jacobson), *O. sibylla* (Bihaghi), *O. speciosa* (Linnaeus), *O. speciosissima* (Scopoli), *O. virgulata* (Germar), *O. viridis* (Duftschmid), *Parambrostoma shuteae* Daccordi, *P. medvedevi* Daccordi, Ge, *Sphaeratrix latifrons* Gistl, *S. tieutainei* (Fairmaire), *Sphaerolina balyi* (Jacoby), *S. rajah* (Guerin-Meneville), *S. templetoni* (Baly), *Timarchomima clavareaui* (Chen), *T. indica* (Jacoby), *T. longicornis* (Maulik).



Subtribe Chrysolinina figure 1: 1–3 – total lateral view: 1 – *Sphaerolina rajah*, 2 – *Humba cyanicollis*, 3 – *Sphaeratrix latifrons*; 4–6 – meso- and metasternum: 4 – *Agrosteomela indica*, 5 – *Sphaeratrix latifrons*, 6 – *Cyrtonus rufifrons*; 7 – *Crosita altaica*, male, 3rd hind-tarsomere; 8–9 – prothoracic hypomeron: 8 – *Sphaerolina balyi*, 9 – *H. cyanicollis*; 10 – *Sphaerolina rajah*, antenna; 11 – *Cyrtonus rotundatus*, pronotum; 12 – *A. indica*, antenna; 13 – *Chrysolina striata*, left elytron: 1–9 – puncture rows, a – scutellar row, b – sutural stria; 14 – *Chrysolina*, head and pronotum: a – frontal suture, b – epicranial suture, c – orbital line, d – anterior setiferous pore; 15 – *Ch. latimargo*, prothorax, ventral view: a – anterolateral portion, b – prothoracic hypomeron, c – intercoxal process, d – basal fold. (Orig.)



Subtribe Chrysolinina figure 2: Some states of pronotal lateral callus: 1 – callus almost absent, pronotum laterally slightly swollen (*Chrysolina pudica*), 2 – callus convex, but not separated by lateral impression (or furrow) from the disc, pronotum swollen laterally, lateral impression absent (*Ch. fastuosa*), 3 – callus convex, separated by furrow from the disc, pronotum swollen laterally (*Ch. chalcites*). (Orig.)